

AMENDMENTS TO THE CLAIMS

1-3. (Cancelled)

4. (Currently amended) A process for preparing an organic silicate polymer having a flexible bridge unit in the network comprising the step of:

reacting the following component (a) with the following component (b) in an organic solvent after addition of water and catalyst:

(a) organosilane of the formula $R^1_m R^2_n SiX_{4-m-n}$ (where each of R^1 and R^2 which may be the same or different, is a non-hydrolysable group selected from hydrogen, alkyl, fluorine-containing alkyl or aryl group; X is a hydrolysable group selected from halide, alkoxy or acyloxy; and m and n are integers of from 0 to 3 satisfying $0 \leq m+n \leq 3$) or a partially hydrolyzed condensate thereof; and

(b) organic bridged silane of the formula $R^3_p Y_{3-p} Si-M-SiR_{4-q} Z_{3-q} R^4_q Y_{3-q} Si-M-SiR_{4-q} Z_{3-q}$ (where each of R^1 and R^4 which may be the same or different, is a non-hydrolysable group selected from hydrogen, alkyl, fluorine-containing alkyl, alkenyl or aryl; each of Y and Z which may be the same or different, is a hydrolysable group selected from halide, alkoxy or acyloxy; M is alkylene or arylene group; and p and q are integers of from 0 to 2) or a cyclic oligomer with organic bridge unit (Si-M-Si), wherein the organic bridged silane is synthesized by reacting a silane monomer containing a Si-H with a silane monomer containing aliphatic unsaturated carbon ($-CH=CH_2$) in the presence of a catalyst.

5-6. (Cancelled)

7. (Currently amended) The process according to Claim 4 ~~A process for preparing an organic silicate polymer having a flexible bridge unit in the network comprising the step of:~~

~~— reacting the following component (a) with the following component (b) in an organic solvent after addition of water and catalyst:~~

~~— (a) — organosilane of the formula $R^1_m R^2_n SiX_{4-m-n}$ (where each of R^1 and R^2 which may be the same or different, is a non hydrolysable group selected from hydrogen, alkyl, fluorine-containing alkyl or aryl group; X is a hydrolysable group selected from halide, alkoxy or acyloxy; and m and n are integers of from 0 to 3 satisfying $0 \leq m+n \leq 3$) or a partially hydrolyzed condensate thereof; and~~

~~(b) — organic bridged silane of the formula $R^3_p Y_{3-p} Si-M-SiR_{4-q} Z_{3-q} R^4_q Y_{3-q} Si-M-SiR_{4-q} Z_{3-q}$ (where each of R^1 and R^4 which may be the same or different, is a non hydrolysable~~

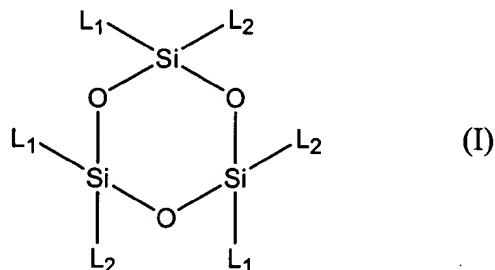
~~group selected from hydrogen, alkyl, fluorine-containing alkyl, alkenyl or aryl; each of Y and Z which may be the same or different, is a hydrolysable group selected from halide, alkoxy or acyloxy; M is alkylene or arylene group; and p and q are integers of from 0 to 2) or a cyclic oligomer with organic bridge unit (Si-M-Si),~~

wherein the organic silicate polymer has a weight average molecular weight ~~within a~~ range of from 500 to 100,000.

8-11. (Cancelled)

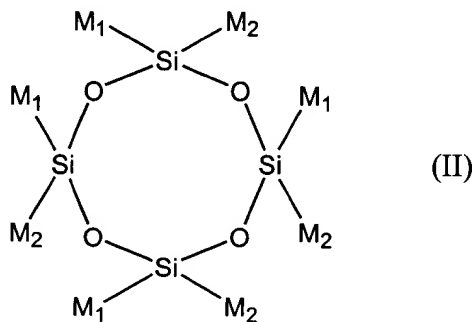
12. (New) The process according to Claim 4, wherein the partially hydrolyzed condensate of the organosilane is obtained by reacting the organosilane of the formula $R^1_m R^2_n SiX_{4-m-n}$ with water in an organic solvent in the presence of a catalyst.

13. (New) The process according to Claim 4, wherein the cyclic oligomer with organic bridge unit (Si-M-Si) is synthesized by the hydrosilylation reaction of an oligomer of ring structure (I):



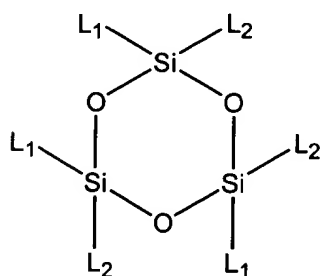
wherein L₁ is alkenyl; and L₂ is selected from the group consisting of hydrogen, alkyl, and aryl.

14. (New) The process according to Claim 4, wherein the cyclic oligomer with organic bridge unit (Si-M-Si) is synthesized by the hydrosilylation reaction of an oligomer of ring structure (II):

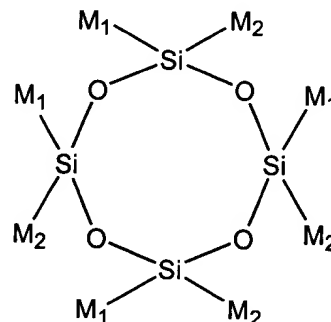


wherein M₁ is alkenyl; and M₂ is selected from the group consisting of hydrogen, alkyl, and aryl.

15. (New) The process according to Claim 4, wherein the cyclic oligomer with organic bridge unit (Si-M-Si) is synthesized by the hydrosilylation reaction of an oligomer of ring structure (I) and an oligomer of ring structure (II):



(I)



(II)

wherein L₁ is alkenyl; L₂ is selected from the group consisting of hydrogen, alkyl, and aryl; M₂ is alkenyl; and M₂ is selected from the group consisting of hydrogen, alkyl, and aryl.

16. (New) The process according to Claim 4, wherein an amount of the organic bridged silane reacted with component (a) is greater than 5 parts by weight per 100 parts by weight of component (a).

17. (New) An organic silicate polymer having a flexible bridge unit in the network prepared by a crosslinking reaction between the following component (a) and the following component (b):

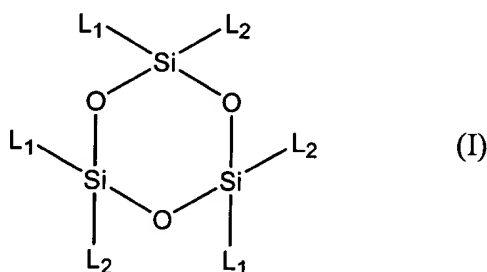
(a) organosilane of the formula $R^1_m R^2_n SiX_{4-m-n}$ (where each of R¹ and R² which may be the same or different, is a non-hydrolysable group selected from hydrogen, alkyl, fluorine-containing alkyl or aryl group; X is a hydrolysable group selected from halide, alkoxy or acyloxy; and m and n are integers of from 0 to 3 satisfying $0 \leq m+n \leq 3$) or a partially hydrolyzed condensate thereof; and

(b) organic bridged silane of the formula $R^3_p Y_{3-p} Si-M-SiR^4_q Z_{3-q}$ (where each of R¹ and R⁴ which may be the same or different, is non-hydrolysable group selected from hydrogen, alkyl, fluorine-containing alkyl, alkenyl, or aryl; each of Y and Z which may be the same or different, is a hydrolysable group selected from halide, alkoxy or acyloxy; M is alkylene or arylene group; and p and q are integers of from 0 to 2) or a cyclic oligomer with organic bridge unit (Si-M-Si), wherein the organic bridged silane is synthesized by reacting a silane monomer containing a Si-H with a silane monomer containing aliphatic unsaturated carbon (-CH=CH₂) in the presence of a catalyst.

18. (New) The organic silicate polymer according to Claim 17, wherein the organic silicate polymer has a weight average molecular weight of from 500 to 100,000.

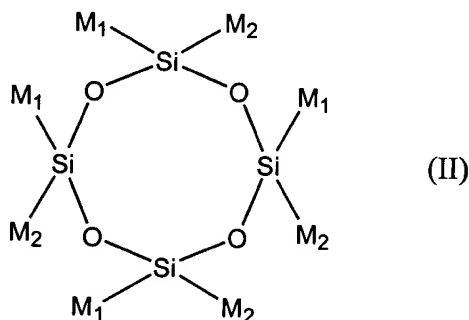
19. (New) The organic silicate polymer according to Claim 17, wherein the partially hydrolyzed condensate of the organosilane is obtained by reacting the organosilane of the formula $R^1_m R^2_n SiX_{4-m-n}$ with water in an organic solvent in the presence of a catalyst.

20. (New) The organic silicate polymer according to Claim 17, wherein the cyclic oligomer with organic bridge unit (Si-M-Si) is synthesized by the hydrosilylation reaction of an oligomer of ring structure (I):



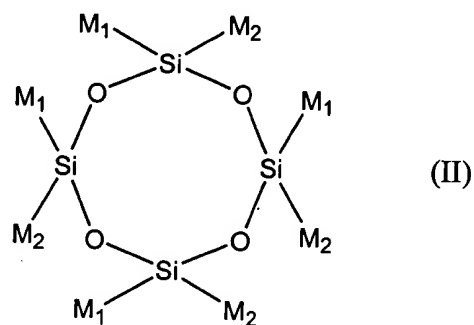
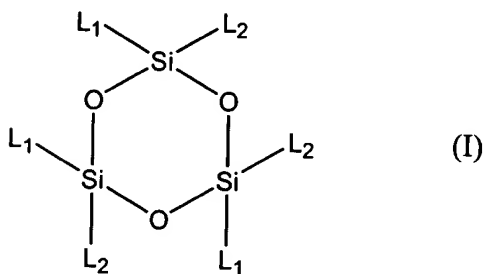
wherein L_1 is alkenyl; and L_2 is selected from the group consisting of hydrogen, alkyl, and aryl.

21. (New) The organic silicate polymer according to Claim 17, wherein the cyclic oligomer with organic bridge unit (Si-M-Si) is synthesized by the hydrosilylation reaction of an oligomer of ring structure (II):



wherein M_1 is alkenyl; and M_2 is selected from the group consisting of hydrogen, alkyl, and aryl.

22. (New) The organic silicate polymer according to Claim 17, wherein the cyclic oligomer with organic bridge unit (Si-M-Si) is synthesized by the hydrosilylation reaction of an oligomer of ring structure (I) and an oligomer of ring structure (II):



wherein L₁ is alkenyl; L₂ is selected from the group consisting of hydrogen, alkyl, and aryl; M₂ is alkenyl; and M₂ is selected from the group consisting of hydrogen, alkyl, and aryl.

23. (New) The organic silicate polymer according to Claim 17, wherein an amount of the organic bridged silane reacted with component (a) is greater than 5 parts by weight per 100 parts by weight of component (a).

24. (New) An interlayer dielectric film for a semiconductor device comprising the organic silicate polymer of Claim 17.

25. (New) A semiconductor device comprising the interlayer dielectric film of Claim 24.

26. (New) A process for preparing an interlayer dielectric film for a semiconductor device comprising the steps of:

- a) dissolving the organic silicate polymer of Claim 17 in a solvent, whereby a dissolved solution is obtained;
- b) spin coating the dissolved solution onto a substrate to form a coating film;
- c) drying the coating film, whereby a dried film is obtained; and
- d) curing the dried film at a temperature of from 300°C to 500°C.

27. (New) A semiconductor device comprising the interlayer dielectric film prepared according to the process of Claim 26.